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ORIGINAL ARTICLES.

The Value of Early Diagnosis in Syphilitic Lesions of the Upper Respiratory Tract, with Illustrative Cases.

By E. B. LA FEVRE, A.M., M.D., Abilene, Kas.

Written for the Kansas Medical Society meeting at Atchison, May 4, 1894.

I presume there is no man within my hearing who has not at some time during his professional career witnessed the dire, disfiguring deformities of the nose, mouth, pharynx or larynx, resultant upon untimely recognized or improperly treated syphilitic disease of these parts.

There is certainly no pathological process within the pale of nosology in which procrastination more irretrievably, in so short a lapse of time, creates a mischief of so lasting and considerable extent, as does the process directly under consideration, and it will consequently be the sole aim of this communication to as forcibly as possible urge more care in the early diagnosis, and the institution of a prompter adequate therapeusis in syphilitic lesions involving the upper portion of the respiratory tract.

It might be urged that a paper of this nature would be more productive of good, and be in greater keeping with propriety, were it presented to the general section rather than to one more or less made up of a class of men doing a specialty in this particular field. But I reply that the men forming this section are nearly all of them more or less general practitioners as well as specialists, and, furthermore, I have found in a short experience among them that even throat specialists are not always diagnostically infallible.

It is true that it is the general practitioner, the family physician, who, in the large majority of instances, first sees these particular cases under consideration, and consequently to him very largely depends the success or non-success of their treatment.

Fortunately for the individual, the symptoms are of such a nature as to bring him comparatively early under the care of the physician.

Where the lesion arises during the secondary syphilitic period, and in the presence of other secondary manifestations, or where there exists the knowledge of a previous primary infection, the diagnosis is scarcely ever a matter of uncertainty.

Usually the throat lesions appearing during the secondary period are of mild extent, resulting in no permanent disaster, and very often demanding no active medical measures. While this is very largely true, still one will occasionally meet with a case where the most energetic treatment will be required to subdue throat manifestations of the secondary stage, and prevent irreparable damage being done.

But it is not the throat lesions of either the primary or secondary periods that so much demand special skill in their diagnosis as it is those of the tertiary period; and it is the lesions of the third stage that cause such rapid destruction of the parts when not early recognized and their ravages abated.

The tertiary manifestations of syphilis as a rule occur singly. They occur at times far removed from other symptoms—it may be twenty to thirty years since the individual had been cognizant of the presence of syphilis in himself—so that it is only by being constantly on the alert, ever mindful of

no matter who presents himself before us, that person may be the subject of syphilis.

It has been my experience that a large proportion of syphilitic individuals will stanchly deny specific infection, although they are fully aware of a primary lesion. There seems to be an inherent tendency among mankind to deny the acquisition of this disease in spite of their best interests, and in the face of imminent danger. This occurs as a rule among people in the higher walks of life and among the better educated classes. Some of these individuals are, as regarding this affection, experts in deception.

The amount of cheap pseudo-medical literature scattered broadcast through the land enables them to learn the typical sequence of symptoms following syphilitic inoculation.

This deception is naturally the most readily practiced during the tertiary period —at a time when such knowledge would be of the greatest usefulness to the physician. They deny the initial sore, the primary eruption, the loss of hair, all glandular enlargements, etc., and by the information they pick up here and there are almost as fully conversant with the subject as the physician himself. In many of the cases, for the reasons above given, we are only able to arrive at a correct diagnosis by the elimination of all other possible affections, and thus coming to syphilis as the only affection possible under the circumstances.

Again we are able to form a correct diagnosis by the appearance of the lesion itself. I do not believe it is possible, at least in many cases,, to paint with words the exact appearance, in a lesion of this nature, that stamps it as unmistakably syphilitic. This is a matter that must be learned by more or less prolonged and frequent observation. It is one of those things upon which we form an opinion rather from the *tout ensemble* than from any particular single point.

I am fully aware that the point I am trying to make here is not strictly in accordance with the teaching of some of our best authors. In instance, no less of an authority than Cohen in his "Diseases of the Throat and Nasal Passages," p. 124, says: "I am unable to recognize anything absosutely characteristic in the appearance of syphilitic disease of the larynx. Some authors claim ability to detect syphilitic inflammation by the unaided eye alone. Advanced cases are recognizable, as the irregular aspect of the ulceration is similar to that of syphilitic ravages in the skin; but in cases not far advanced or of moderate severity it is extremely difficult, to say the least, to determine the syphilitic nature of a laryngitis from its mere aspect."

Naturally from the above, Cohen would hold the same opinion of lesions involving other parts of the upper respiratory tract than the larynx.

On the other hand we find many authors holding an opinion directly opposed to that of Cohen, at least in a certain proportion of cases, and I must confess that I am inclined to agree with the latter class. While I am by no means free to say that I can diagnose syphilitic lesions by the aspect alone in every case, I feel sure I can do so in a certain number of such cases. In many instances, as I have already stated, the diagnosis can only be determined upon by the exclusion of all other possible affections.

The two diseases with which syphilis is at all likely to be confounded is tuberculosis and cancer, especially carcinoma.

Unfortunately when the diagnosis is not clear we have but few points except the appearance of the lesion, which materially aids us in determining the nature of the affection. Age and station in life do not afford us much information. Syphilis and tuberculosis occur at about the same time of life as a rule—that is, early adult life. Cancer appears as a rule somewhat later, mostly after forty years of age. The individual history, both family and personal, if it can be obtained, yields quite presumptive evidence. Nearly every case of tubercular disease of the parts under consideration occurs secondary to infection of the pulmonary organs, and while a syphilitic lesion may arise in conjunction with a tubercular pulmonary lesion, its occurrence would be of such rarity as to scarcely warrant its con-

sideration. The nature of the pain present has always been of marked significance to me in the differential diagnosis of these three throat diseases. When the pain is of a periodical, regular lancinating character, especially in an individual past the meridian of life, I have come to regard it as almost pathognomonic of cancer. In tuberculosis the pain is rather of a sticking character, and as a rule only occurs when the parts are pressed upon or moved, as in talking, deglutition, etc. With syphilis there is generally a continuous, constant, dull, heavy ache, which does not seem to be materially increased unless rather strong pressure is brought to bear upon the parts affected, and then the pain partakes of a sharp, shooting or boring character. The appearance of the secretions of the three diseases differ as a rule one from the other. In tuberculosis the discharge from the ulceration is of a muco-purulent character, generally whitish or yellowish white in color. In syphilis it is usually of a greenish yellow color and indescribably offensive in odor. This peculiarly penetrating odor is very strongly suggestive of syphilis when present, and where the disease is active and of very long duration, it is nearly always present. In cancer the discharge is usually more or less bloody in character, the tissues bleeding under the least irritation, a thing seldom occurring in either syphilis or tuberculosis.

To the eye syphilitic ulceration presents a ragged but sharply cut edge, surrounded by a decided deep red or purplish areola. The edges are seen to be slightly excavated, and the entire ulcerated surface covered by the greenish-yellow secretion to which I have above alluded. The discharges are rather adhesive, and for that reason are liable to form thick, dry crusts over the ulcerated portion, which are removable only with considerable difficulty.

Another feature of syphilitic ulceration is its tendency to occur symmetrically on either side of the throat; for instance, it is not unusual to see, after a certain time has elapsed from the appearance of an ulcer on one ventricular band, to have another appear at a corresponding point on the opposite band.

When a differential diagnosis cannot with certainty be made, and especially if the disease shows active progress, or is in a location where vast and irreparable damage is liable to ensue, I believe it to be the part of wisdom to always give the individual the benefit of any doubt that may exist, and at once place him upon an adequate course of anti-specific treatment, pushing the mercury and iodides, not alone but together, to the extent of making a thorough therapeutic test, and then if the lesion prove itself to be other than syphilitic, and the anti-specific remedies have been judiciously, although heroically administered, I believe no permanent harm can accrue from such a course. Whereas if the disease is shown to be one of a specific nature, only good, in no telling how great a form, will be the result of this procedure.

Personally I would not depend, in an aggravated case, upon the stomach, to pour into the circulation a sufficient quantity of mercury to control active symptoms. I should gain the quickest mercurialization possible by the use of the drug either hypodermatically or by inunction, although using either of the two latter only in conjunction with the administration by the mouth. I prefer inunction rather than the hypodermatic use of mercury, for the reason that no preparation of mercury so far suggested is free from the production of abscesses. When we obtain mercury in a non-irritating and wholly soluble form, I believe the hypodermatic method will supercede all others, when a quick impression is desirable; but until such a preparation can be had, my judgment dictates the inunctive to be the more eligible method.

The three following cases are briefly narrated in order to show the ravages capable of being produced when a correct conception of the disease has not obtained, or where sufficiently early and active treatment has not been instituted. I believe it is fair to presume that the distressing results might have been prevented in each of the three cases had the early and judicious use of the anti-syphilitic remedies been made.

Case 1. Mrs. A., aged 34, wife of minis-

ter, had innocently acquired syphilis in a truly Christian (?) manner from her husband some seven years previous to my being consulted.

From facts elicited directly from Mrs. A. it was evident that she had been correctly treated through the primary and secondary periods of the disease, by a physician who was fully cognizant of the nature of the affection, but who from certain reasons had withheld from the lady the true nature of the disease forming her trouble, for when I first saw her she was not aware of having anything but an innocent disease.

My first examination of the case was made on October 11, 1889, and I then found the following structures involved in the syphilitic process: Both nasal bones, the left nasal process of the superior maxillary bone, the left middle and inferior turbinates, the nasal cartilages (in part) and the upper three-fourths of the nasal septum.

The nose externally presented a very much swollen and deformed appearance, an appearance which has been likened to and dubbed a "frog-face."

Intranasal inspection showed the right nostril swollen, the blood vessels markedly injected, but no ulceration was noted on the right side and the nasal passage was still patent. The left nostril showed passage occluded by a swollen, infiltrated, ulcerated and rapidly breaking down mass. A greenish-yellow discharge was flowing from the left nostril in enormous quantities, the odor of which was almost sickening. Pain, of a deep, dull boring character, which seemed to affect the entire head, was intense. Temperature at first observation was 101° F., pulse 104. Chilly sensations, indicative of absorbed pus, had been present for the past several days.

Patient stated that the present trouble was first noticed some six weeks previously, beginning first as a mild coryza, with considerable deep-seated pain, and both had steadily increased. A clear specific history was obtainable.

Almost from the beginning she had been under the constant care of a homeopathist, and he had repeatedly admitted to her that he was not clear as to the nature of her trouble. He had treated her by internal medication and by medicated sprays to the affected parts, but had not in the least checked the ravages of the affection.

A diagnosis of syphilis was made and a grave prognosis regarding the restoration of the affected parts was given, but as regarding life a fairly good prognosis was made.

The attempt was first made to cleanse the parts, but on account of the excessive tenderness I soon found that anæsthesia would be required. Cocaine first by spray and then by injection failing, resort was had to full ether anæsthesia, and all diseased parts, including a considerable amount of necrosed bone, was cleared away. She was placed upon both mercury and the iodides in heroic dosage, the mercury being given by the mouth and also by inunction. The parts were kept as clean as possible by the use of alkaline sprays and douches, and applications of nitrate of silver, iodoform and permanganate of potash were made as occasion demanded. Opiates, in sufficient quantities to control pain, were administered when necessary.

In this manner the symptoms were rapidly brought under control, but the resulting deformity of the nose was simply frightful. The tip, owing to the non-destruction of the lower portion of the septum, stood out from the face to almost the normal distance, while the parts about the bridge, owing to complete destruction of the hard parts, dropped to slightly below the level of the face, leaving the nose wrinkled and somewhat twisted upon itself, making the individual one positively repulsive in appearance.

The lady afterwards went to New York and submitted to a number of operations for the restoration of the nose. The making of a bridge was attempted by implanting a portion of the leg of a rabbit. This was only partially successful, but by two or three plastic operations, a nose somewhat better in appearance, and one allowing of almost perfect respiration through the natural channels was obtained.

There is no doubt in my mind that if this case, from the readiness with which she yielded to anti-specific remedies, could have been properly recognized in its inception, and the mercury and iodides pushed in the manner they afterwards were, no such deformity need have resulted.

Case 2. Mr, R. A., merchant, bachelor, aged 43 years, was referred to me for treatment on January 4, 1890. No specific history could be obtained, although I was at considerable pains to do so. The physician under whose care he had been, and who referred the case to me, believed the affection to be tubercular. As no lesion of the lungs could be detected and as the lesion did not present the appearance of a tubercular one, and in spite of a non-specific history I made a diagnosis of syphilis and placed him under proper and active anti-syphilitic treatment.

The parts involved in this case were the soft and hard palate and uvula. When I first saw him the uvula and at least one-half of the soft palate were destroyed, and an opening between the roof of the mouth and the floor of the nose, about 1 cm. in diameter was present. The entire roof of the mouth was swollen and infiltrated, and the case appeared to be a desperate one. Impression was made at the earliest possible moment by mercury, the sloughing parts removed down to healthy tissue, and local applications, principally of silver nitrate and iodoform, were made.

He did not respond to mercury as readily as it would have been desired, and the iodides produced such intense coryza and conjunctival irritation, that it was necessary to suspend it after a few days use and wait for subsidence of its toxic manifestations before it could be resumed, and for these reasons more destruction of tissue took place than would have otherwise occurred.

Ultimate results were under the circumstances good. A large part of the soft palate being destroyed, a "nasal twang" resulted which will forever be a reminder of the attack. A plastic operation after the second attempt effectually closed the opening between the oro-nasal cavities.

Case 3. Is one of tertiary syphilitic laryngitis with destruction of the right vocal band and consequent aphonia, and marked deformity of the larynx. This occurred in a male 31 years of age, a butcher by occupation. The initial lesion was acquired at the age of 21. He had been free from any syphilitic manifestations for about six years prior to the laryngeal attack. As he had supposed he had caught cold and the disease would disappear with time, he had treated himself and neglected to call upon the services of a physician until April 13, 1890, when I saw him for the first time, and upon laryngoscopic examination found the following condition of affairs: The entire pharynx and larynx was highly congested (almost livid), swollen, and exquisitely sensitive and irritable. Pressure about the larynx externally elicited great tenderness. Temperature and pulse were above normal. Talking and deglutition painful.

At the base of the epiglottis was a deep, ragged ulcer, the base excavated and the surface covered with a dirty greenish-yellow foul discharge. Ulceration of the aryepiglottic fold on the right side, with great tumifaction of the left, and also an ulcer of the upper anterior portion of the right thyroid cartilage, with infiltration and beginning breaking down of the right false vocal band were present. The true vocal cords at the first examination were seen to be highly injected, but their destruction was not thought to be in danger. The true condition could not be appreciated because of the swollen condition of the whole throat, and also because of the extremely sensitive condition of the throat, a condition which could not be completely overcome by cocaine, the use of the mirror was somewhat difficult.

The destructive action of the process was the most violent I have before or since witnessed, and although he responded to mercury as quickly as I ever saw an individual, still the disease had gained such headway as to preclude a satisfactory result.

The parts were cleansed and nitrate of silver and iodoform applications made twice daily, but in spite of the best I could do the right vocal band was ulcerated away from

its anterior attachment, and afterwards removed along together with other of the necrosed parts, the upper half of the right thyroid and a small portion of the cricoid was destroyed, and the cicatricial tissue in contracting had a tendency to fold the upper portion of the left side of the larynx over onto the right side, and at the same time there was an antero-posterior narrowing of the entire larynx.

The condition in which the larynx was left largely interfered with his respiration, and the voice was entirely destroyed.

Abstract of an Article on Croup and Diptheria.

B. H. Detweiler, M.D., Williamport, Pa., in Maryland Medical Journal.

I do not consider it necessary to call your attention to the anatomical construction of the larynx, nor the distribution of the squamous epithelium upon the lining tissues of the pharnyx and mouth, and the ciliated upon the vocal cords; nor that these epithelial cells determine whether the exudation be croupous or diphtheritic. This is the point that should be fully considered, and upon which the duality of these diseases depends.

Croupous inflammation is in all cases the exudation that involves the vocal cords from their anatomical construction, of ciliated instead of squamous epithelium. If this exudation be exposed to the Klebs-Loeffler bacillus, there is no question of the attack being diptheria.

My mortuary record of diphtheritic exudation extending into the larynx is no better than my compeers'. I am persuaded it is of importance that the recognition of the duality of these diseases be made early, and that it is not good practice to err, if err they do, by treating all cases of croup on the so-called safe side of diphtheria with its terrible mortality record, and that it is the duty of every practitioner to diagnose *early* every case of croup; if diphtheritic, treat it accordingly; if membranous give it the advantage of depletion and revulsives, by the prompt administration of calomel in quarter grain doses, every half hour, till the characteristic spinach stools are secured, inhalation of steam from lime water, which dissolves the croupous exudate upon the vocal cords, which cause the disease; and prompt depletion for four or five hours by leeching, and followed immediately by a cantharidal blister, which treatment will result in certain and speedy cure. Without the help of intubation or tracheotomy, I have followed this course since 1867 without the loss of a single patient.

Apparent Death by Electricity.

Medical Record.

At a recent meeting of the Biological Society of Paris, Dr. d'Arsonval reported the case of a workman who was caught between two cables conveying electricity from the station of La Chapelle to that of Epinay-sur-Seine. The current measured 5,000 volts, and the man received the full discharge for a period of five minutes which elapsed before the current was shut off. It was not known at first what caused the disturbances noted in the current, and the man was not discovered until forty minutes later. He was then apparently dead, but attempts were made to resuscitate him by artificial respiration after Sylvester's method. These failing, resort was had to rythmical tractions of the tongue. Respiration was in this way gradually re-established and the man made a quick recovery, being none the worse for his experience except that he suffered from the burns. The reporter believed that death from electricity is not immediate but follows asphyxia and syncope, conditions which may often be removed by treatment. If this is so, may the criminals executed in this State be said to be killed by electricity or during the autopsy?

KEROSENE will remove blood stains.

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W. E. McVEY, B.S., M.D., Managing Editor.

Collaborators:
J. E. MINNEY, A.M., M.D., Topeka, Kas.
S. G. STEWART, M.D., Topeka, Kas.
J. C. McCLINTOCK, A.M., M.D., Topeka, Kas.
M. B. WARD, A.M., M.D., Topeka, Kas.

Topeka, Kansas, Saturday, Aug. 18, 1894.

Routine.

It strikes us that physicians like other people are subject to all the evil effects of routine practice. The expressions we often hear in medical meetings give the strongest evidence of routine practice. The physician who never uses ergot, never gives veratrum viride is as much of a routinist as the one who uses ergot in every case of labor and gives veratrum viride in every case of puerperal convulsions. It is only a difference in the method. The man who adopts a routine method of treating his cases does not exercise that perception or discernment which evidences a complete understanding of pathological conditions. To recognize every condition and meet every indication, is an essential feature of a truly scientific practice. No drug and no method should be totally ignored if it in any condition meets the requirement. The skill with which remedies are used often makes or mars the result. If we know when and how to administer a remedy we may be confident of securing the desired result from its use.

Hospital experience is recognized as an advantage to every young practioner. There are, however, certain objections that can be raised against the influence upon his habits. There is a degree of routine in the management of hospital cases that must make a strong impression upon the beginner. Every case of pneumonia or every case of typhoid will not need exactly the same treatment, yet in hospital and dispensary practice we usually find these cases all get a stock mixture in a regulation dose. While visiting a corporation dispensary a few years ago we witnessed the treatment of some ten or more cases of what were apparently simple colds. Though there were different conditions manifested, each received a bottle of cough mixture and a box of chlorate of potassium tablets. Where large numbers of cases are treated daily there is almost universally a routine system adopted.

Law Relating to Blindness.

The following law relating to blindness of infants has been recommended by the Committee on Ophthalmology of the American Medical Association:

"SECTION 1. Should one or both eyes of an infant become inflamed, or swollen, or reddened at any time within two weeks after its birth, it shall be the duty of the midwife or nurse having charge of such infant, to report in writing, within six hours, to the health officer or some legally qualified practitioner of the city, town or district in which the parents of the infant reside, the fact that such inflammation, or swelling or redness of the eyes exists.

"SEC. 2. Any failure to comply with the provisions of this act shall be punished by a fine not to exceed $200, or imprisonment not to exceed six months, or both."

Chloride of Sodium and Pneumonia.

Dr. Evans, in the *Virginia Medical Monthly*, gives a very pretty theory of the role of chloride of sodium in pneumonia. Taking the statistics of pneumonia in the different races of people, he finds that the percentage of the disease is greater among those who consume large quantities of salt or salt meats. From the fact that no salt appears in the urine during the pronounced attack of pneumonia, he reasons that there must be an accumulation of salt. He says: "As the normal quantity of uncombined salt excreted by the kidneys alone is over two and one-half drachms per day, and as for an average period of four days in pneumonia there is no salt in the urine, this accumulation of salt must exercise a deleterious influence upon the functions of hæmatosis and nutrition and possibly irritates the parenchyma of the lungs, for salt produces emesis by irritating the stomach and for the same reason checks hæmoptysis."

The frequency of the disease in the intemperate he attributes rather to the habit in drinking men of using salt with their beer and their greater salt meat eating tendency. He attributes the prevalence of pneumonia during the winter and spring months to the nature of the diet, lessened physical exercise, lessened activity of the skin, together with a moist atmosphere and a changeable temperature. The relation of the diplococcus to pneumonia he explains as follows:

"In 1880, Dr. Sternberg discovered in his saliva a bacterium, which goes in pairs; hence the name diplococcus. It was afterwards frequently found in the pneumonic exudate, etc.; but it is also found in the mouths of well people to the extent of about 12 per cent., I think. It is quite generally found in the mouths of patients with measles.

"It is therefore found in a salty medium, the saliva, and to certainly produce pneumonia in the lower animals it must be injected into a salt-eating animal, as the mouse. In rabbits and guinea pigs such effect is inconstant.

"A better test could be made in highbred animals, as in certain cows and horses, which are much subject to pleuro-pneumonia. These animals are much given to eating salt.

"We are merely upon the threshold of physiological knowledge, and it may be that our successors will laugh at us for squinting at motes when pathological beams will stand out. However, I do not deny that pneumonia is due to a micro-organism, for many facts point in that direction.

"At certain times in the twenty-four hours the saliva is death to certain animals. Louis Fischer says: 'If you take some of the morning sputum before cleansing the teeth, and hypodermically inject a mouse, you will find that death usually ensues in twenty-four hours from a septicæmia.'

"The nose, the male uretha, and the vagina normally contain pathogenic organisms; 'so it is easily explained why, under certain conditions, be they cold, trauma—in other words, any subnormal condition—the reactive powers of the body are lessened to such a minimum that pathogenic bacteria can and do enter, causing different pathogenic conditions. At night, the excretions and secretions become more concentrated and acrid, and hence it is probable that the majority of gonorrhœas are contracted at night.

"Since writing the above on the *probable prophylactic power of acute gonorrhœa against pneumonia*, I have seen two cases reported of pneumonia supervening on that disease, and all the symptoms of gonorrhœa stopped, and again returned with convalescence. The salt in the discharge went to feed the pneumonia, the constitutional and stronger disease."

The greater proclivity of the root of the right lung for the disease he explains by the following hypothesis:

"The base, or, according to Niemeyer, the root of the right lung, is the most frequent seat for the commencement of pneumonia. This may be due to gravitation both of the essential cause or causes of the disease and its factor, salt. The right lung

is larger than the left, the right pulmonary artery is larger than the left, and the branch which supplies the lower lobe of the right lung is larger than the branch which supplies the upper. When the disease begins in the left lung, it also begins in its base. The bases of the lungs are dependent when the body is erect; and in the normal attitude of sleep upon the right side, with cheek or shoulder upon pillow, the thorax forms a slightly inclined plane. As the pneumonic patient usually reclines on the affected side, the exudation of salt is further promoted.

"The apical form of pneumonia in the aged lacks so many of the characteristics of the form under consideration, that it is probably catarrhal."

Difficult Labors and Subsequent Effects Upon the Child.

From the proceedings of the Topeka Academy of Medicine and Surgery, August 13, 1894.

Dr. Powell not being present with his paper, Dr. R. E. McVey made a few extemporaneous remarks upon the subsequent effects of difficult labors on the physical and mental conditions of the children of such labors.

He said: In difficult labors there is more or less compression of the bones of the cranium. The posterior portion of the scalp and bones of the head of the child are converted into a wedge to dilate the parturient canal. It is reasonable to suppose that when there has been much compression of the bones of the cranium that there is more or less injury to the soft structure of the cells of the brain and to its blood vessels. It is only when the injury to the soft parts has been great enough to produce a still-birth that we are permitted to make a *post mortem* examination. Where *post mortems* have been made hemorrhages into the brain have been found, and from the fact that hemorrhages are found in the still-born it is but logical to suppose that slight hemorrhages take place in those children who survive the ordeal of a difficult labor. It is well known that the centers of locomotion are situated in the brain, and that all volitional acts proceed from the brain to the muscular system. These volitional centers, when the cells are compressed beyond certain limits, are liable to congestions which may require months or years to repair. As a result of the compression we may have spastic rigidity of the muscles of the lower extremities, spastic hemiplegias, spastic choreas, epilepsy, infantile convulsions, or other morbid conditions, which may make their appearance immediately after birth or be postponed for years afterward. When the anterior portion of the head is compressed there is likely to be mental enfeeblement, which manifests itself in lack of mental capacity. The vessels in the brain which are lacerated are the veins of the pia-matar.

Where the head is closely impacted in the parturient canal, the responsibility of the physician is very great. He must choose between waiting for the natural expulsive efforts of the uterus to expel the child or resort to the use of instruments. In my judgment instruments should be limited to cases where there is pressing danger. I have known many children, delivered by forceps, to have convulsions before they were six months old, and others to have polio myelitis anterior. It is the compression which causes the injury and not the forceps unless the forceps increase the compression of the bones of the cranium which already exist. In either way there is danger to the child. Tristram Shandy said that first bornes make the capacity for second bornes. He was quite well satisfied that first bornes labored under a mental disadvantage.

Richard III attributed his physical defect to having been the first born.

Would it not be well when we see a mental or physical defect in a child to inquire into the character of the labor and learn if there was a probable injury to the brain at birth which has never been repaired? Can anything be done for the relief of such spastic or mental conditions as observed in such cases?

Probably not.

Dr. Mitchell: I think the statement that

cerebral symptoms result from the compression should be modified. It might result from continued pressure. Instruments have caused much harm from being used injudiciously.

Dr. Cannon: I don't believe the child ever dies from hemorrhage in the brain from pressure on the head. When such is the case it is due rather to pressure on the soft parts forcing the blood into the head. I don't use ergot at all. Reported a case of child delivered by forceps which died from convulsions 48 hours after.

Dr. Lindsay: I think the recuperative power of the child's brain will compensate for any ordinary injury during labor. A great many children upon whom instruments are used do show the effects in after life.

Dr. Cannon: The use of forceps is not always responsible for the injuries that follow, but the conditions which necessitate their use.

Dr. Eastman: It is well known that feeble-minded conditions are dependent often upon difficult labors, but the result is more from pressure upon the soft parts and the *vis a tergo* forcing the blood into the head.

Dr. Hampshire: I was taught not to use forceps in delayed labors. In the last few years, however, I have used them. The convulsions and other conditions I have thought due to heredity. I had never thought of it in this light.

The Life History of the Bacillus Tuberculosis in its Relations to the Cure of Tuberculosis in Man.

Abstract from a paper read before the Medical Society of the District of Columbia, by Robert Reyburn, A.M., M.D.—Medical Age.

There is also a marked difference to be observed in the organs attacked by tuberculosis in children, as compared with the same disease in adults. In the former, tuberculosis commences usually in the glandular system, and the caseous glands may infect the adjoining organs, lungs, etc., by direct infection, or may set up a condition of general miliary tuberculosis. In adults, on the other hand, in an enormous preponderance of cases the disease tends to localize itself in the lungs, and the digestive system and the glands are much less frequently involved. The infection caused by the bacillus tuberculosis in adults is, there can be no doubt, produced by these micro-organisms lodging in the nasal cavities, pharynx, trachea, or lungs. In children the infection is more general and very often seems to enter by the intestinal tract.

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As has been before mentioned, the infection of tuberculosis in infants and young children more often takes place through the glandular system of the intestines than through the mucous surface covering the respiratory apparatus. This fact emphasizes the importance of most carefully scrutinizing the milk supply and the cattle from whence the milk is procured, in order that no tubercular infection may be incurred from that source. I am inclined to look also with considerable distrust on the common practice of feeding young infants with scraped raw-beef, believing it to be possible thereby to infect young children with tuberculosis, not to mention the possibility of other parasitic infectious diseases, as for example trichinosis. As the infant grows and develops into the child, new sources of infection for the development of tuberculosis are found to exist in the glands, so abundantly to be found on the surfaces of the respiratory mucous membranes.

The crypts and follicles of enlarged tonsils form a nidus and resting place for the retention and development of tubercle bacilli; the same may be said of adenoid growths in the vault of the pharynx, and of a catarrhal condition of the mucous membranes of the throat or nasal passages, whether produced by the above-mentioned or other causes. This chronically inflamed condition of these mucous membranes (commonly called catarrh), I believe to be a powerful predisposing cause of pulmonary consumption. Another reason why enlarged tonsils and other growths in the pharynx should always be removed, is, that they in great measure prevent the proper develop-

ment of the chest and lungs. In all cases of chronic catarrh I believe it to be of the utmost importance to insist upon the habitual and thorough cleansing of the nasal and post-nasal cavities with antiseptic solutions. If this is not done, the secretions of the part become more or less putrid, the resisting power of the blood-serum of the organs on which we depend for the destruction of these and other pathogenic micro-organisms becomes weakened or destroyed, and the body is thus rendered an easy prey to whatever poisonous germ may then find entrance.

As will readiiy be understood from the previous part of this paper, the preventive treatment of this dread disease is by far, I believe, the most important. Cases of this disease are, however, ever present with us, and the momentous question then presents itself: What are the principles of treatment that should guide the physician in the management of cases of tuberculosis? The best answer to be given to this, therefore, will probably be found by making another inquiry, viz.: How are cases of tuberculosis (more especially tuberculosis of the lungs, or pulmonary consumption) spontaneously or by medical aid cured? That these cases are cured, is proven by the universally admitted fact that a large proportion of cadavers of persons who have died from many different diseases, and who during life presented no apparent disease of the respiratory organs, have on post-mortem examination shown indubitable evidences of having at varied periods of their lives suffered from tuberculosis of the lungs.

Dr. J. Hughes Bennett, in his classical work, "Clinical Lectures on Medicine," says (p. 680) that the spontaneous arrest of tubercle in its early stages occurs in the proportion of from one-third to one-half of all the individuals who die after the age of forty. The observations of Roget and Boudet, made at the Saltpetriere Hospital in Paris, amongst individuals who were generally above the age of seventy, showed that from one-half to four-fifths of such persons had recovered from tuberculosis.

As the larger proportion of these cases never received any medical treatment for their tubercular disease of the lungs, it must be perfectly apparent that the fluids or tissues of the body must have the power to destroy and render inert these poisonous micro-organisms. Where does this power reside? Metchnikoff thought he had discovered the answer when he elaborated the doctrine of phagocytosis, or the destruction of bacteria and other micro-organisms by the leucocytes or white corpuscles of the blood. Nutall, Buchner, Fissen, Lubarsch, and in this country T. Mitchell Pruden and many others, have shown conclusively, however, that the power of destroying the bacteria, etc., resides not in the leucocytes, but in the blood-serum. This preservative power of the blood-serum also explains why it is that the human body is able to resist the destructive action of the innumerable poisonous micro-organisms which continually surround us. They exist in every breath of air we draw, in the articles of food we consume, and in much of the water we drink. Uncounted myriads of them are to be found in the digestive apparatus of persons who seem to be in all respects perfectly healthy. Professor Buchner, of Germany, states the time usually required for one microbe or germ to become two, by the process of division, is fifteen minutes. At this rate it is computed that a single microbe would produce in twenty-four hours a million million million times the present human population of the earth. Professor Law, in a paper published recently in the *Pharmaceutical Era*, estimates that a single bacterium dividing and rediviging would produce in forty-eight hours, if undisturbed, 281,500,000,000, which in bulk would fill a half-pint measure—all produced in two days, from a single germ measuring the 1-150,000 part of an inch.

Pathological bacilli are just as numerous where found, and divide as rapidly. Professor Bollinger states that a cubic centimeter (about one-fourth of a fluidrachm) of phthisical sputum (from a case of pulmonary consumption) contains from 810,000 to 960,000 tubercle bacilli. In an ordinarily copious expectoration the consumptive patient deposits nearly a million bacilli into his cup,

and in an ordinary day he throws thirty or forty millions of these micro-organisms into the world. Then, at a low estimate, ten thousand tuberculous patients now living in New York City daily expectorate some 300,000,000,000 tubercle bacilli.

There exist, however, two conditions which have a most powerful effect in increasing or diminishing the power of the blood-serum to destroy these poisonous micro-organisms. The first of these here to be mentioned is the high or low condition of the health of the individual at the time of receiving the infection. If the individual is in a high state of health his blood-serum is then capable of destroying an immense number of these pathogenic organisms, and he is thus rendered immune to the disease.

Let us apply, then, the lesson to be drawn from the above-mentioned facts to the principles to be observed in the treatment of tuberculosis. Patients with tuberculosis can be cured when seen in the early stages of the disease, and when they can be placed under proper conditions of hygiene. We enjoin perfect cleanliness; we direct that they shall receive an abundant supply of easily assimilated and nourishing food; we send them away from the vitiated and impure air of the city, to breathe the pure and reviving air of the country; we give them cod-liver oil, tonics, the preparations of iron, iodine and its compounds, beechwood-tar creosote, with now and then a little codeine or morphine to allay the cough and procure sleep. This is not a long list of remedies, and in it there is nothing new.

The Dangers of the Long Rectal Tube.

Buffalo Medical and Surgical Journal.

The use of the long rectal tube in cases of obstruction, or supposed obstruction of the bowel, has never been looked upon with favor by good anatomists. The finding of the traditional needle in the haystack is but little more difficult than the successful maneuvering of the rectal tube through the twists and turns of the sigmoid flexure. The question of the value and safety of this tube having been asked of the *British Medical Journal*, the matter was referred to Mr. Harrison Cripps, who replied as follows to that journal:

"Traditions die hard, and notwithstanding the condemnation of the long rectal tube by Brodie, Treves and many other eminent authorities, I still find that in most cases of obstruction or supposed obstruction the tube has been introduced. Fortunately, these tubes are fairly soft, so that in a capacious rectum, when they impinge and are arrested about opposite the promontory of the sacrum, they simply coil up and do no harm. If stiffer ones are used, the patient's life is placed in imminent risk. A patient at St. Bartholomew's Hospital was to be operated on for ruptured perineum. In order to increase the supposed efficacy of the injection, a quart of soap and water, with some ounces of oil, were injected by means of a long tube. The injection never returned. A few hours afterwards, owing to the acute symptoms of the patient, I assisted one of my colleagues in opening the abdomen. The soap and water and oil we found in the abdominal cavity, and a hole below the reduplicated fold in the upper part of the rectum. The patient died. The idea that these tubes can be generally passed into and beyond the sigmoid flexure is a pure delusion, save in the rarest circumstances. As a means of diagnosis, or of treating stricture beyond the reach of the finger, tubes of any kind are absolutely useless. If a stricture is actually present, it would be 100 to 1 against the long tube or bougie entering it, for it would almost certainly catch in the cul-de-sac, generally caused by the invagination of the stricture. If a stricture be not present, the arrest of the bougie by the sacral promontory leads to delusive diagnosis. Brodie, in his lecture, alludes to a case in which a worthy practitioner had spent over 150 hours in dilating a supposed stricture situated high up. The treatment had extended over a period of a year. Brodie, who was present at the post-mortem examination, found there was no sign of a stricture, the bougie becoming arrested by a curve of the sacrum."